

Soldier

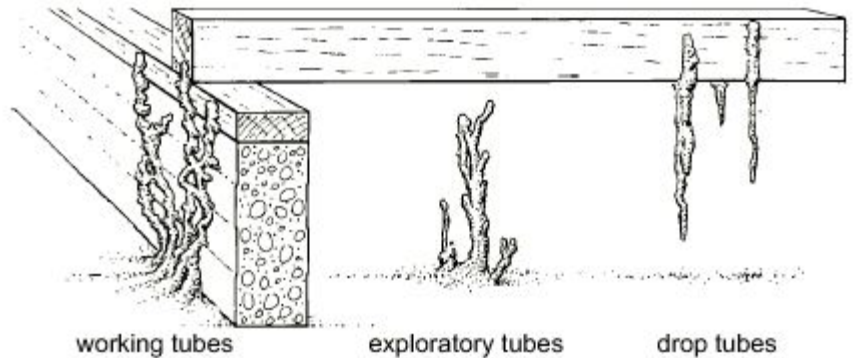


Worker

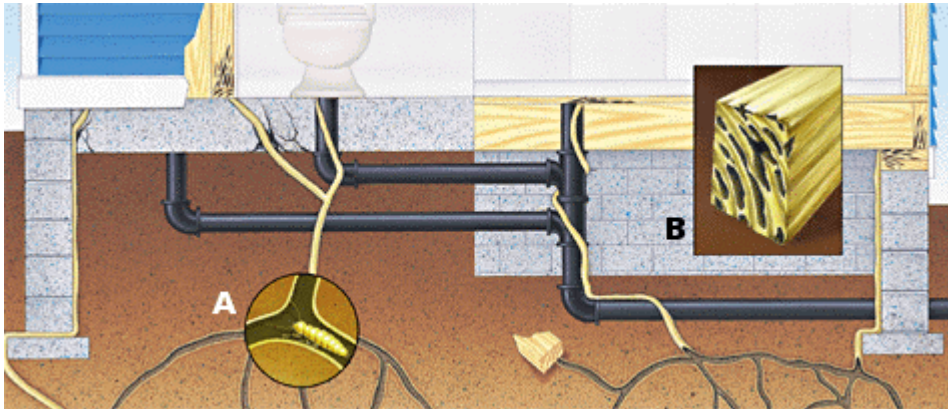


Swarmer

Typical signs of termite infestations include swarming of winged adults in the spring (March, April, May, and June) and occasionally autumn (September and October). A "swarm" is a group of adult male and female reproductives that leave their nest to establish a new colony. Swarming occurs when a colony reaches a certain size. Emergence is stimulated when temperature and moisture conditions are favorable, usually on warm days following rainfall. Other signs of termite presence include "pencil-size" mud tubes constructed over the surface of foundation walls, mud protruding from cracks between boards and beams, and hollow sounds from infested wood when it is tapped, or extreme softness when probed with a knife. Termites feed slowly and there is no need to panic.



How termites make themselves at home in your home.



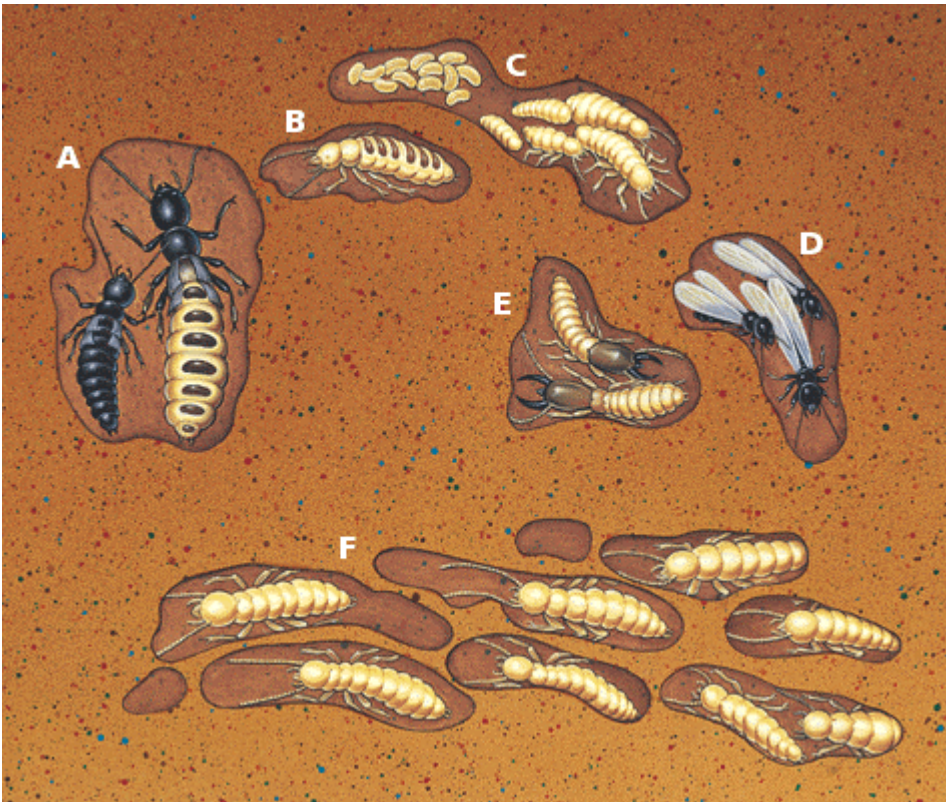
- A.** By building ingenious mud tubes, termites can cross many feet of concrete, brick, cinder block, treated wood, or metal termite shields, making it possible to reach the upper floors of a structure.
- B.** Termites eat wood from the inside out, defying detection for years while doing extensive damage.

Identification

Subterranean termites are social insects that live in nests or colonies in the soil. Each colony consists of three forms or castes of individuals, which are the reproductives, workers, and soldiers. Reproductives can be winged (primary) or wingless (secondary). The latter are found in mature colonies and serve as replacements if something happens to the primary reproductives. Winged, primary reproductives (alates) are coal black to pale yellow-brown, flattened and about 1/4 to 3/8 inch long, with pale or smoke-gray to brown wings. Secondary reproductives are white to cream-colored with short wing buds. Workers are wingless, white to grayish-white with a round, yellow-brown head and about 1/4 to 3/8 inch long. Soldiers are also wingless and resemble workers except that they have large, rectangular, yellowish and brown heads with large mandibles (jaws).

Swarmers have straight, bead-like antennae, a thick waist, and a pair of long, equal-length wings that break off easily. The presence of winged termites, or their shedded wings, inside a home should be a warning of a termite infestation. They can be differentiated from adult winged ants that have elbowed antennae, constricted waists, forewings are larger than the rear wings (unequal size), and not easily detached.

A Termite Overview



A. The Queen occupies a "royal cell" with the King. She may live up to 25 years, laying many thousands of eggs annually.

B. Supplementary Reproductives act as replacements for the Queen if she should die. They may also produce eggs even if the Queen is healthy to help increase colony size.

C. Eggs are cared for by workers during a two-week incubation period before passing into the nymph stage.

D. Winged Reproductives are the termites you may see when they "swarm," usually in the spring, signaling a well-developed colony. After shedding their wings, reproductives pair off, burrow into the soil and begin a new colony.

E. Soldiers, with armored heads and strong jaws, protect the colony from enemies, most commonly ants.

F. Workers represent most of the termites in the colony. Blind and sterile, they forage for the colony's food. Worker termites cause most damage.

Life Cycle and Habits

In a typical termite colony, the king and queen are the only active reproductives; they perform no other function. The other termites feed them, and some have lived up to 25 years.

A mature queen can lay thousands of eggs each year. During the two-week incubation period, the worker termites tend eggs. The nymph hatches directly from the egg. Attendants feed nymphs regurgitated food for the first two weeks, enabling them through molting to become workers, soldiers, reproductives, or supplementary reproductives. As the reproductive nymph matures, its body lengthens and sexual organs develop. The body turns black, eyes become functional, and wings extend twice its body length.

The worker nymph has no eyes and is sterile. **Its main function is to provide the colony with food, usually obtained by eating the understructure of buildings.** The soldier nymph develops a long,

armored head and large jaws during its last molt. The sole purpose of the soldier is to defend the colony against enemies such as ants. All mature reproductives leave the colony at the same time, usually in the spring and sometimes in the fall. Swarmer are poor fliers and, when above ground, usually flutter a few yards and fall. Swarmer, emerging outdoors from tree stumps, railroad ties, etc., are usually not of concern and are in no way an indication that the structure is infested. After dropping to the ground, they shed their wings. Surviving males find compatible mates and then burrow into the ground to become king and queen. These termites live in nests underground and tunnel up for food, which includes the wood understructure of homes.

A very small percentage of swarming termites survive to initiate new colonies. Many are eaten by other insects, birds, etc. Likewise, swarms emerging inside a structure usually never survive. However, it is an indication of infestation. Entomologists at the University of Tennessee feel colonies of ants or termites issue swarms four to six years after being established. Others feel swarming can occur in only two to three years. Workers need a high humidity to survive and will carry mud up into the wood where feeding to maintain a 97 percent relative humidity. Termites have the ability to move their colony up and down in the soil to find the optimal temperature and moisture conditions.

Workers build mud tubes from the soil to the wood in structures on which they feed. Termites can feed on wood since they have protozoans in their alimentary tract (gut) that digests cellulose, the basic component of wood. Workers prefer to feed on fungus-infested wood, but can feed equally well on undamaged wood. Workers secrete food material from their mouths and anuses to feed the reproductives and soldiers.

Control Measures

In most cases, once a termite infestation has been found, a professional pest control firm rather than a do-it-yourself treatment best accomplishes control measures. (Homeowners seldom have the experience, availability of professional products and equipment needed to perform the job effectively.)

Some of the things you may see professionals do as they treat your home.

1. Trench and treat outside foundation. The basic first step.
2. Trench and treat inside crawl space foundation wall. This is necessary if your house has a crawl space or a basement with a dirt floor.
3. Treat soil under a crawl space. If space is limited, we'll usually have to drill small holes in the outside concrete wall surrounding the crawl space.
4. Treat beneath flower boxes or other parts of the structure that protrude out from the main structure.
5. Soil in bath traps must be treated and access panels may have to be cut.
6. Treat behind brick veneer.
7. Treat spaces around chimney.
8. Treat hollow blocks.
9. Treat cracks, expansion joints and voids under basement floor or slab.
10. Treat near ducts in slab.
11. Treat areas where pipes and utility lines penetrate slab or basement floor.
12. Treat through holes drilled around perimeter of slab.
13. Treat soil beneath porch or deck.
14. Treat between steps and house.
15. Drill and inject brick pier.

Prevention

Avoid moisture accumulation near the foundation. Divert water away with properly functioning downspouts, gutters and splash blocks. Ground near the foundation needs to be sloped or graded in order for surface water to drain away from the building. Poor draining may need tiles or drains installed. Termites and ants are attracted to moisture.

Reduce humidity in crawl spaces with proper ventilation. Crawl spaces should have ventilation openings in the foundation at the rate of two square feet per 25 linear feet of foundation wall. One vent needs to be within five feet of each exterior corner of the building. Prevent shrubs, vines and other vegetation from growing over and covering the vents. It is important to have maximum cross-ventilation. Install polyethylene sheeting over 75 to 85 percent of the soil surface in crawl spaces to reduce excess moisture. Before and during construction, never bury wood scraps or waste lumber in the backfill, especially near the building. Be sure to remove old form boards, grade stakes, etc. left in place after the building was constructed. Remove old tree stumps and roots around and beneath the building. Never stack or store firewood lumber or other wood products against the foundation or within the crawl space. Prevent trellises, vines, etc. from touching the house. (Prevent any potential hidden paths of termite entry into the structure that could bypass any termiticide soil barrier already in place.)

Use termite metal shields on interior walls extending two inches out and two inches down at a 45-degree angle from the wall. This non-corrosive metal should have no cracks and be at least 12 inches above the ground. The concrete foundation should be reinforced to prevent cracking. Use concrete or steel supports, steps, etc. when in contact with soil.

Borates (disodium octaborate tetrahydrate) and/or wolmanized pressure-treated wood (chromated copper arsenate) protects against termites and wood decay fungi. However, even railroad ties, telephone poles and pressure treated wood, over time, can be subject to termite attack. Mud tubes can be built over the surface or entry gained through cut and cracked ends.

Most importantly, eliminate any wood contact with the soil. An 18-inch gap between the soil and wooden portions of the building is ideal. However, at least try to maintain six to eight inches between ground level and porch steps, latticework, door or window frames, etc. Pull or grade soil back away from the foundation. Wood posts and stairs embedded in concrete can also be paths of entry by termites. Wood mulch can attract termites, especially when damp and moist. When mulch is used, avoid contact against the wood siding or frames of doors and windows. Pea gravel or crushed stone are much less attractive to termites, ants, pill bugs, millipedes, earwigs, crickets, etc.